A REVIEW OF THE GENUS RHINOPLATIA HORN

(COLEOPTERA, OEDEMERIDAE)

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Fifty years have passed since George H. Horn presented his review[1] of the North American Oedemeridae. In this work he added sixteen new species and one genus to the then known forms. During the intervening years only two new species have been described from the Nearctic Region, and there have been no comprehensive reviews or revisions.

In the course of preparation of a revision of the North American forms of this family, a number of specimens of a very distinctive new species have been discovered. This has prompted me to present this survey of the western Nearctic genus *Rhinoplatia*, hitherto known only from the genotype.

I wish to express here my sincere thanks to Dr. E. A. Chapin, Curator of Insects of the United States National Museum for the loan of material and Dr. Henry Dietrich of Cornell University for aid in procuring specimens.

RHINOPLATIA Horn

Rhinoplatia Horn, Trans Amer. Ent. Soc., 2:137 (1868).—LeConte & Horn, Class. of N. Amer. Col., ed. 2, p. 405, (1883).—Horn, Proc. Calif. Acad. Sci. (2) 6:420, (1896).—Seidlitz, Naturgesch. Ins. Deutchl. V, 2:815, (1899).

Genotype: Rhinoplatia ruficollis Horn, 1868, (monobasic).

The genera *Copidita* LeConte, *Asclera* Schmidt and *Oxacis* LeConte are probably the closest relatives of this genus. Yet this genus in external appearance is quite different from any of these. The structure of the male genitalia indicates that *Rhinoplatia* is more closely related to *Copidita* LeConte than to the other North American genera, but falls in the same group with *Asclera* Schmidt and *Oxacis* LeConte. However, the external diagnostic characters of the genera of Oedemeridae are too inadequately worked out to make any further statement here as to their relationship.

Generic Features

Head very elongate, at least three times as long as the width at the base of the antennae, not narrowed behind the eyes; last joint of the maxillary palpi narrowly triangular, widest near the middle; mandibles elongate, arcuate at tip and acute; labrum elongate, quadrate, angles rectangular; eyes distant from the antennae, oval, not emarginate, and only slightly protruding; antennae inserted midway between the eyes and the base of the mandibles, filiform, eleven segmented in both sexes,

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[1] Horn, George H., *The Oedemeridae of Boreal America*, Proc. Calif. Acad. Sci. (2) 6:382-421, (1896).

female with the apical segment ringed at the center, giving the appearance of two segments.

Thorax elongate, one and a half to two times as long as wide. Legs long, uniform; anterior tibiae with two apical spurs; penultimate joint of the tarsi alone spongy beneath, claws simple.

Elytra elongate, acute at the tip and covering the abdomen, pubescent and punctate, with at most very vague costae. Abdomen of five visible segments in both sexes, the terminal segment conical in the male, broader in the female.

Male genitalia.—Median lobe with a large apical ventrally projecting hook, and two dorsally projecting basal processes, the posterior one curved anteriorly and the anterior one semi-chitinous; lateral lobes deeply bifid both basally and apically, with the basal process large, forming two flaps which extend dorsally and surround both of the basal processes of the median lobe; ninth abdominal segment with the ventral plate armed with two teeth which are hook-like and bend towards the dorsal plate; base of the ventral plate long, narrow and somewhat dorsally curved; a small, semi-chitinous, palpus-like lobe present on the inner surface of the ventral plate of the ninth segment; eighth abdominal segment with both plates deeply bilobed and setigious.

Biology.—Nothing is known of the habits of the immature stages of these species. The adults are found on flowers.

Distribution.—The genus *Rhinoplatia* as here understood comprises two species for the world, both of which are confined to the western United States.

Both species may be readily distinguished on external features as well as those of the male genitalia.

Rhinoplatia ruficollis Horn

Rhinoplatia ruficollis Horn, Trans. Amer. Ent. Soc., 2:138, (1868); [♂ & ♀: Owen's Valley, California].—Horn, Proc. Calif. Acad. Sci., (2) 6:421, (1896); [♂ & ♀: Owen's Valley, on the east of the Sierras, Kern County to the westward in California].

Type.—Owen's Valley, California. [Type No. 8071, Acad. Nat. Sci., Phila.]. ♀.

The shorter, broader thorax and the uniform color of the pubescence of the elytra readily differentiates *ruficollis* from the following new Death Valley form, *mortivallicola*. Other differences are explained in more detail under *mortivallicola*.

Diagnostic Features

Head elongate, three times as long as wide at the base of the antennae, sparsely punctate; antennae filiform, inserted midway between the eyes and the base of the mandibles, eleven segmented; eyes oval, not emarginate, not protruding; mandibles long, acute at the apex and not bifid; apical segment of the maxillary palpi triangular, widest near the middle.

Thorax about one and a half times as long as wide, sides sinuate, wider towards the head, sparsely punctate; legs narrow, penultimate tarsal segment bilobed and spongy beneath.

Elytra elongate, acute at the apex, sometimes with vague costae, densely punctate.

Entire insect clothed with moderately dense griseous pubescense; color bluish-black; the head black, or sometimes with the apical half reddish-orange; thorax reddish-orange; legs and antennae piceous; elytra rarely with a purple tinge.

Length 5-12 mm., males usually somewhat smaller than females.

Male genitalia.—Small; the median lobe long, curved, with a large ventrally projecting apical hook, basally with a dorsally recurved process and a slightly anterior semi-chitinous dorsal process of the same length; lateral lobes deeply bifid both apically and basally, basal pieces large and dorsally projecting; ninth abdominal segment with a long basal, ventral, slightly dorsally curved process, dorsal apical plate moderately acute at the apex, ventral plate armed with two outwardly curved, somewhat hooked, moderately long and thin teeth, median ventral lobe attached interiorly and projecting beyond apical edge of ventral plate; eighth abdominal segment with both plates deeply bilobed. Setae present on the following: ninth segment: apical row on the dorsal plate, basal row before the basal process; apex of the lobe of the ventral plate; eighth segment: lobes of both the dorsal and the ventral plates.

Distribution.—The present species ranges from the western part of the Great Basin in Nevada and California southward into the Mojave and Colorado Deserts and thence westward into the Piedmont and Transverse Ranges (Los Angeles) district of southern California.

Specimens examined.— 31 : 16 ♂, 15 ♀.

Nevada: 25 mi. n. w. Gerlach, Washoe Co.; 29-V-39; (P. C. Ting, M. A. Cazier, J. A. Downes, T. Aitken) : 2 ♀; [Cazier Coll.]. 25 mi. n. Wadsworth, Lyon Co.; 28-V-39; (P. C. Ting, M. A. Cazier, J. A. Downes, T. Aitken) : 1 ♀ [Cazier Coll.]. Goldfield, Esmeralda Co.: 2 ♂ [Chicago N.H.M.]. Esmeralda Co.: 1 ♂; [Chicago N.H.M.].

California: Upper Soda Springs, Siskiyou Co.; (J. E. Cottle) : 4 ♂, 5 ♀; [R.H.A.]. Coalinga, Fresno Co.; below 500 ft. alt.; 1-3-VI-07; (J. C. Bradley) ; 1 ♀; [C.U.]; 14-V-38; (M. A. Cazier) : 1 ♂; [Cazier Coll.]. Inyo Co.; 1-VI-37: 1 ♂; [Cazier Coll.]. Westgard Pass Plateau, Inyo Co.; 3-VI-37: 1 ♂; [Cazier Coll.]. Cajon Pass, San Bernardino Co.; (J. C. Cottle); 1 ♀; [R.H.A.]. Los Angeles Co.: 1 ♂; [Chicago N.H.M.]. Palm Springs, Riverside Co.; May; (A. Fenyes) : 5 ♂, 2 ♀; [C.U.].

Rhinoplatia mortivallicola[2], new species

The longer, narrower thorax and the sparse, black pubescence at the subapex of the elytra readily differentiates this species from the preceding form, *ruficollis*. In addition, the head is entirely reddish-orange, while the preceding species has the head either all black, or black with the apical half reddish-orange. The thorax of *mortivallicola* is devoid of pubescence and is shiny, while *ruficollis* has the thorax densely clothed with griseous pubescence. The male genitalia differ in that the ninth segement is armed with two short, hook-like teeth at the apex of the ventral plate; *ruficollis* has these teeth long, narrow and slightly curved laterally.

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[2] from *mors*, death + *vallis*, valley.

Type.—♂; Death Valley, California; 28-III-32; [U. S. N. M. Cat. No. 58426].

Male.—Length: 14 mm. Head elongate, three times as long as wide at the base of the antennae, sparsely punctate; antennae filiform, eleven segmented, placed midway between the eyes and the base of the mandibles; eyes oval, not emarginate, not protruding; mandibles long, acute at the tip and not bifid; apical segment of the maxillary palpi triangular, widest near the middle.

Thorax two times as long as wide, sides slightly sinuate, somewhat wider towards the head, sparsely and very obscurely punctate, and very shiny; legs narrow, penultimate segment bilobed and spongy beneath.

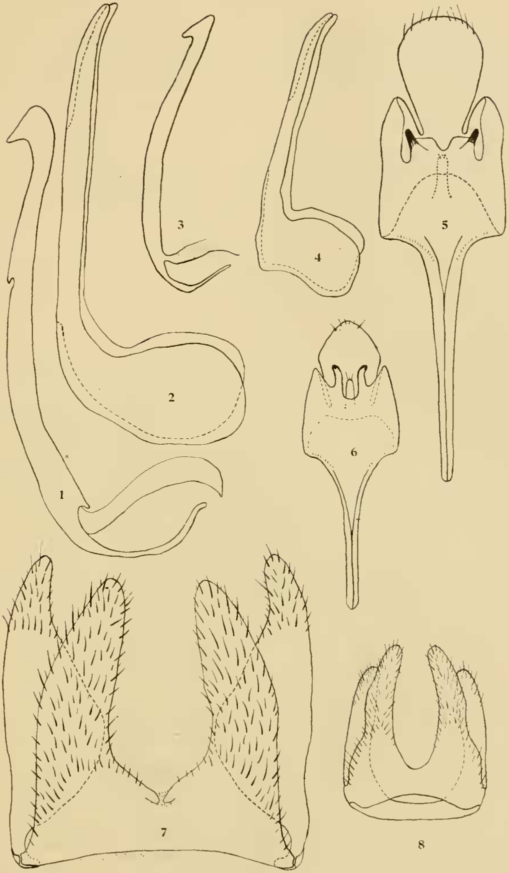
Elytra elongate, acute at the apex, without vague costae, densely and closely punctate.

Entire insect clothed with moderately dense griseous pubescence except at the subapex of the elytra and the thorax; subapex of the elytra with sparse, black pubescence. Color bluish-black; the following reddish-orange: head, antennae, thorax, anterior coxae, and tarsi; blackish-orange: middle and hind coxae, all femora and tibiae.

Male genitalia.—Large; the median lobe long, curved, with a ventrally projecting apical hook, a smaller subapical, ventrally projecting hook located at approximately two-thirds the distance from the base, basally with a dorsally recurved process and a slightly anterior semi-chitinous dorsal process of the same length; lateral lobes deeply bifid both apically and basally, basal pieces large and dorsally projecting; ninth abdominal segment with a long basal, ventral, slightly dorsally curved process, dorsal apical plate evenly rounded at the apex, ventral plate armed with two laterally bent, short, blunt, somewhat hooked teeth, median ventral lobe attached interiorly and not projecting beyond apical edge of ventral plate; eighth abdominal segment with both plates deeply bilobed, dorsal plate medianly membranous. Setae present on the following: ninth segment: apical row on the dorsal plate; basal row before the basal process; apex of the lobe of the ventral plate; eighth segment: lobes of both the dorsal and ventral plates.

Allotype.—♀; same data as the type. [U. S. N. M.].

Female.—Length: 12 mm. Agrees with the type in all essential respects except for the following: the apical segment of the antennae is falsely ringed giving the appearance of two segments.



Male Genitalia (Dissected) fig. 1, *R. mortivallicola*, n. sp., median lobe, lateral view; fig. 2, *R. mortivallicola*, n. sp., lateral lobes, lateral view; fig. 3, *R. ruficollis* Horn, median lobe, lateral view; fig. 4, *R. ruficollis* Horn, lateral lobes, lateral view; fig. 5, *R. mortivallicola*, n. sp., ninth segment, ventral view; fig. 6, *R. ruficollis* Horn, ninth segment, ventral view; fig. 7, *R. mortivallicola*, n. sp., eighth segment, ventral view; fig. 8, *R. ruficollis* Horn, eighth segment, ventral view.

Paratype.—♂; same data as the type. [U. S. N. M.]. Length: 9 mm. This specimen agrees with the type in all details except size.

Distribution.—This species is known only from the three type specimens, all of which were collected in Death Valley, California.

THE NEST OF THE BOG ANT, MYRMICA BREVINODIS VAR. CANADENSIS WHEELER

(HYMENOPTERA, FORMICIDAE)

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The construction of the nests of various ants, the choice of the materials used and the selection of the site of the formicaries are subjects of considerable interest to the myrmecologist.

Wheeler (Ants, 1926, The Columbia University Press, p. 192) remarks in the introduction of the chapter dealing with ant nests: "Nothing is better calculated to illustrate the marvellous plasticity of ants than the study of their nesting habits. Not only may every species be said to have its own plan for nest construction, but this plan may be modified in manyfold ways in order to adapt it to the particular environment in which the species takes up its abode."

Recently the writer has accidentlly found a method of formicary architecture and choice of building material which seems to be novel.

The nest described below is that of the "Bog Ant," *Myrmica brevinodis* variety *canadensis* (Wheeler, 1907, Bull. Wisc. Nat. Hist. Soc., 5: 76) which is inclined to nest in very wet meadows or even in swamps. This ant is widely distributed in northeastern North America; the Collection of the Museum of Comparative Zoology, Harvard University, contains specimens from Colebrook, Connecticut (type locality), various localities in Massachusetts, Maine, Pennsylvania, Wisconsin, Nova Scotia, British Columbia, etc.

The spring of the year 1946 was rather wet in New England and the ground water table was higher than usual in the locality where the formicaries described below were found. The nest figured here was discovered in a very wet meadow occupying the site of a former peat bog bordered by glacial deposits of sand and rounded stones. In drier weather the ground is sufficiently dry to permit the nesting of forms

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[1] The writer wishes to acknowledge her indebtedness to Dr. M. R. Smith U. S. Department of Agriculture, Division of Insect Identification, for help given in the preparation of this paper.